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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/709,435 | 05/05/2004 | Atsushi MINE | 040191 | 3434 |
| 23850 | 7590 | 03/23/2006 | EXAMINER | |
| ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP 1725 K STREET, NW SUITE 1000 WASHINGTON, DC 20006 | | | CHAN, EMILY Y | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2829 | |

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/709,435

Applicant(s)

MINE ET AL.

Examiner

Emily Y. Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>1/30/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 1/30/06 was filed after the mailing date of the Notice of Allowance on 9/19/05. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori et al US Patent No. 6,680,536 in view of Walsh DB 2,383,474.

Regarding to claim 1, Hattori et al ('536) expressly disclose a probe card (probe unit)(see Fig.2D) as claimed, comprising:

a base plate (1) and

a probe (see Fig. 1C) being a member in a shape of a half circle arc, formed on and supported at one end thereof by a surface of the base plate (1) , and having a top portion (6) located at almost the center of the probe serving as a contact surface for contacting with an electrode of a measurement objective (see Col. 5, lines 45-46, and Col. 6, lines 23-27) wherein the probe has a first quarter circle arc portion (3 or the left side of the top portion 6) which is supported at one end (2) thereof by the base plate (1)

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and a second quarter circle arc portion (see Fig. 1D , the right portion of the top portion 6) which is connected to the other end of the first quarter circle arc portion (3) and shorter than the first quarter circle arc portion (3) and the top portion (6) of the probe is brought into contact with the measurement objective (17) and is elastically deformed (see Col. 4, lines 59-65 and Fig. 6A, 6B).

Hattori et al ('536) do not specify that their second quarter circle arc portion (3 or the right portion of the top portion 6) is a little shorter than the first quarter circle arc portion (3 or the left side of the top portion 6) and do not disclose that the distal end of the second quarter arc portion is brought into contact with the base plate (1) when the top portion (6) is brought into contact with the measurement objective (17).

Walsh ('474) discloses a probe card for measuring instrument (see Fig. 1) comprising a base plate (12), a probe (10). Walsh ('474) exclusively teaches that his probe (10) a first quarter circle arc portion which is supported at one end thereof by the base plate (12) and a second quarter circle arc portion (18) which is connected to the other end of the first quarter circle arc portion and a little shorter than the first quarter circle arc portion, and the top portion (16) of the probe (10) is brought into contact with an electrode of the measurement objective and

elastically deformed and thereby a distal end of said second quarter arc portion is brought into contact with said base plate and slides (see Abstract " Hook 18 that is accessible when the biased member is urged from the housing against the bias").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the teaching of Walsh ('474) in to

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Hattori et al ('536)'s apparatus to made the shape of Hattori et al ('536)' probe as claimed for the expected benefit of providing flexible arrangement of the probe as disclosed by a Walsh ('474) (see page 3, line 12 of the specification).

Regarding to claim 2, Hattori et al ('536) disclose that a projected contact terminal (small projection 6) is provided at the top portion thereof.

Regarding to claim 3, Hattori et al ('536) disclose that the distal end portion of the second quarter circle arc portion is spherical (see Figs 6A-6B and Col. 7, lines 46-53).

Regarding to claim 4, Hattori et al ('536) disclose coating on the probe lead (2) and the small projection (6) of the their probe (see Col. 10, lines 12-15 and 64) which meets the claimed coating applied on the distal end surface of the distal end portion of the second quarter circle arc portion.

Regarding to claim 5, Hattori et al ('536) disclose material necessary for raising a Young's modulus (see Col. 13, lines 11-13 "metal to be plated probe may be nickel or nickel alloy ... which gives proper rigidity and elasticity to each lead").

Regarding to claim 7, Hattori et al ('536) disclose coating (insulated surface) is applied on a portion of a surface of the base plate (1) in contact with the distal end surface of the second quarter circle arc portion (see Col.8, lines 66-67).

Regarding to claim 8,, Hattori et al ('536) disclose that a reinforcing member (see Fig. 10D, 9) with elasticity higher (see Col. 8, lines 60-63 " low melting point") than the probe is provided integrally with the probe on a surface thereof facing the base plate (1) along the length direction (see Col. 12, lines 26-37).

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Regarding to claim 9, Hattori et al ('536) disclose that a reinforcing member (see Fig. 10D, 9) with elasticity higher (see Col. 8, lines 60-63 " low melting point") than the probe is provided between the base plate (1) and a surface of the probe on the other side thereof from the top portion (6) thereof.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y. Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 571-272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EC
3/20/06


VINH NGUYEN
PRIMARY EXAMINER
A.U. 2829
03/20/06